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ABSTRACT

Going beyond the available research on children's spelling development and written text (reading), this year-long longitudinal study examined the relationship between spelling and reading in order to determine whether kindergarten children's ideas about spelling develop simultaneously with reading or whether one precedes the other. Monthly, for 8 months, 26 kindergarten children from 2 kindergarten classes in a public school were asked to spell 7 words and 1 sentence. Their spellings were analyzed and categorized according to seven levels. To assess their notions about written texts, each child was interviewed. The conversation included two particular sentences, which were then written, and the child had to identify where specific words were written. These responses were categorized according to four levels. Findings indicated the rate of progress of each child through the levels, and revealed the relationship between children's notions about what is written in a written segment (reading) and their spelling. In 19 of the 26 children studied, growth in reading preceded spelling achievement. All of the children in the study were in whole language classrooms, which may have contributed to their growth. Similar studies in classrooms that are not whole language classrooms were recommended. Contains four references. (BAC)

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Development of Spelling and Reading in Kindergarten: A Constructivist Analysis

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Development of Reading and Spelling in Kindergarten: A Constructivist Analysis

The most systematic research available on children's early spelling and reading development is that of Ferreiro and Teberosky (1982). They conducted their research with four-to six-year-old Spanish-speaking children, basing it on the theory of Jean Piaget. Ferreiro and Teberosky concluded that young children have many ideas about how words are spelled. Over a period of several years, we (Kamii, Long, Manning, & Manning, 1990) have studied young children's spelling development, using the research of Ferreiro and Teberosky as a framework.

Ferreiro and Teberosky also studied young children's notions about what's written in a written text (reading). Ferreiro (1978, p. 25) found that children "who cannot yet read in a conventional sense nevertheless have very precise ideas about what can be found in a written text." We (Manning, Manning, Long, & Kamii, 1993) used Ferreiro's framework and studied young children's notions about written text (reading).

Although we studied young children's spelling development and their notions about written text (reading), we had not examined the relationship between spelling and reading. Therefore, in this study we sought to answer the following question: Do kindergarten children's ideas about spelling develop simultaneously with their notions about what can be found in a written text (reading) or does one precede the other?

Method

The 26 subjects in this study were kindergarten children from two kindergarten classes in a Southern American city attending a public school. The school is located in a middle class neighborhood, and only a few of the children were on free or reduced lunch. About half of the children were Caucasian and the other half were African American. Both groups of children were taught by whole language teachers.

Monthly, for eight months, the children were asked to spell seven words (cement, ocean, punishment, motion, tomato, karate, vacation), and one sentence (The giraffe eats leaves.). Their spelling was analyzed by the three researchers using categories developed by Kamii, Long, Manning, and Manning (1990), which were based on criteria established by Ferreiro and Teberosky (1982). If at least four of the words met the criteria for a level, the spelling was categorized at that level. The levels of spelling are as follows:

Level	Description
0	Children at this level draw pictures or scribble rather than make letters or symbol-like forms.
1	Children write a string of letters for a word that has no set number of letters from one word to another. The string might run across the entire page as a child spells a word.
2	Children write a string of letters that usually consists of three to six letters for each word. The letters may be different for each word or the same letters might be rearranged from one word to the next.

2X Children at this level--as in level 2--write a string of letters that usually consists of three to six letters for each word. The letters may be different for each word or the same letters might be rearranged from one word to the next. In addition to meeting the criteria for level 2, children write the "correct" first letter in words.

3 Children at this level--consonantal level--make letter-sound correspondences, mostly by consonants. For example, they usually write smt for cement.

4 Children at this level--the alphabetic level-make letter-sound correspondences by consonants and vowels. For instance, they might write vacashun for vacation or moshun for motion. These consistencies suggest the construction of a system approaching conventional spelling.

5 Children spell most words in a conventional way.

In addition to obtaining spelling samples once a month, we assessed children's notions about written texts using procedures from an earlier study (Manning, Manning, Long, & Kamii, 1993). On an individual basis, each child was brought from the classroom and interviewed using two sentences: "Daddy kicks the ball" and "The man is eating a cookie." After a short conversation, a video camera was turned on and the interviewer said, "I'm going to write something on this strip of paper and I want you to watch me." After the first sentence, "Daddy kicks the ball," was written, the interviewer read it aloud sweeping her hand from the beginning to the end of the sentence. The child was then asked what had been written. After she repeated the sentence, the interviewer asked, "Did I write Daddy?" If the answer was yes, follow-up questions were asked, such as "Where did I write Daddy?" and "What makes you think that says Daddy?" Similar

questions were asked about the other words in the sentence. When a response did not indicate exactly where a word was written, the interviewer asked the children to show with their fingers the beginning and the end of the word in question. The same procedure was followed with the other sentence.

In that study, we identified four levels:

Level	Description
1	The child thinks, for the most part, that only nouns are written.
2	The child thinks that every spoken word is written, but does not make correspondences between spoken words and written segments.
3	The child makes correspondences between spoken words and written segments following the order in which the words are spoken.
4	The child does everything the level 3 child does but, in addition, uses some knowledge of letter-sound correspondences to identify written segments.

Results

Findings in this study are very similar to our previous research in that these kindergarten children progressed through the same levels as young children in our other studies. However, this year-long longitudinal study shows the rate of progress of each child through the levels, and reveals the relationship between children's notions about what is written in a written segment (reading) and their spelling (See Tables 1 and 2).

Insert Tables 1 and 2 about here

Growth in reading preceded spelling achievement in 19 of the 22 children who were not at level 4 in spelling and reading at the beginning of the year. Only one child moved to level three in spelling before he achieved level four in reading; one child moved to level four in reading and level three in spelling the same month.

Four of the 26 children were at level four in reading and level three in spelling at the beginning of the year. All children except one reached level four in reading by the end of the year; this child remained at level two in reading and level two in spelling throughout the entire school year. Eight children reached level four in reading but did not reach level three in spelling; three of these children were at level 2 in spelling and five of them were at level 2X in spelling.

Of the 11 children who reached both reading level four and spelling level three during the year, four children achieved level three in spelling one month after reaching reading level four, three children moved to level three in spelling two months after reaching reading level four and the other four children reached spelling level three in three, four, five, and seven months respectively.

Discussion

Although reading and spelling are different tasks, there appears to be a close connection between what children know about reading and their knowledge of spelling.

Of the 22 children who were not already at level four in reading at the beginning of the year, 19 clearly showed that their knowledge of reading preceded their knowledge of spelling.

All of the children in this study were in whole language classrooms which may have contributed to their growth because they engaged in daily shared and independent reading and writing activities.

It is recommended that similar studies be conducted in classrooms that are not whole language to assess reading and spelling growth and the relationship between the two aspects of knowledge.

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Table 1

Monthly Levels of Spelling and Reading

Student No.	O	N	D	J	F	M	A	M
1-S	3	3	3	3	3	3	3	3
1-R	4	-	-	-	-	-	-	-
2-S	1	1	1	1	1	1	2	2
2-R	1	2	2	4	-	-	-	-
3-S	2	2X	2X	2X	2X	2X	2X	2X
3-R	4	4	-	-	-	-	-	-
4-S	2	2	2	2	2	2	2	2
4-R	2	2	2	2	2	2	2	2
5-S	2	2	2X	2X	2X	2X	2X	2X
5-R	2	4	-	-	-	-	-	-
6-S	3	3	3	-	3	3	3	3
6-R	4	-	-	-	-	-	-	-
7-S	1	1	2X	3	3	3	-	3
7-R	2	2	4	-	-	-	-	-
8-S	1	1	2	2X	2X	2X	2X	2X
8-R	1	3	4	-	-	-	-	-
9-S	1	2	2	2	2X	2X	-	-
9-R	1	2	4	-	-	-	-	-
10-S	2X	2X	2X	2X	2X	2X	3	3
10-R	1	4	-	-	-	-	-	-
11-S	2	2	2	2	2	2	2	2
11-R	2	2	2	2	2	2	4	4
12-S	2	2X	2X	2X	2X	2X	2X	3
12-R	4	-	-	-	-	-	-	-
13-S	1	2X	2X	2X	2X	2X	2X	3
13-R	1	2	2	2	2	4	-	-
14-S	2X	2X	-	3	3	3	3	3
14-R	4	-	-	-	-	-	-	-

Table 1 continued

Student No.	O	N	D	J	F	M	A	M
15-S	2	2X	3	3	3	3	3	3
15-R	3	4	-	-	-	-	-	-
16-S	2X	3	3	3	3	3	3	3
16-R	4	-	-	-	-	-	-	-
17-S	3	4	-	-	-	-	-	-
17-R	4	-	-	-	-	-	-	-
18-S	1	1	1	1	1	1	2	3
18-R	1	1	1	3	3	3	3	4
19-S	2X	2X	2X	2X	2X	2X	3	3
19-R	1	2	4	-	-	-	-	-
20-S	2X	3	3	3	3	3	3	3
20_R	4	-	-	-	-	-	-	-
21-S	2X	2X	3	3	3	3	-	-
21-R	4	-	-	-	-	-	-	-
22-S	2	2	2	2	2X	2X	2X	2X
22-R	2	2	3	3	3	4	-	-
23-S	3	4	-	-	-	-	-	-
23-R	4	-	-	-	-	-	-	-
24-S	1	1	1	1	1	1	1	2
24-R	1	1	1	4	-	-	-	-
25-S	2X	2X	-	-	3	3	3	3
25-R	1	2	4	-	-	-	-	-
26-S	2X	3	3	3	3	3	3	3
26-R	3	3	3	3	3	3	3	4

*S = Spelling
*R = Reading
*Since S4 and R4 are the highest levels in this study, the spelling and reading interviews were stopped when the child reached these levels.
*- indicates no sample was collected because of a child's absence or because the child had reached level 4.

Table 2

Spelling and Reading Relationships

No. of Children	Description
4	Level 4 in reading and level 3 in spelling in October
12	Level 4 in reading and level 3 in spelling after October
	Same month (1 child) Level 4 in reading before level 3 in spelling
	- 1 month interval (4 children) - 2 month interval (3 children) - 3 month interval (1 child) - 4 month interval (1 child) - 5 month interval (1 child) - 7 month interval (1 child)
1	Level 3 in spelling before level 4 in reading
8	Level 4 in reading and below level 3 in spelling
	Level 2 in spelling (3 children) Level 2X in spelling (5 children)
1	Level 2 in both reading and spelling during entire year